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THE ROLE OF THE PHYSICIAN IN DEFENSE

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The part the medical profession will play in defense efforts is vastly different from that which it played in the last, or any previous war. During the last war large numbers of physicians were taken from private practice for service in the armed forces, and their removal placed a great additional burden on those who were left. They participated in the examination of the draftees and were paid a small fee for their services. Since the inception of the Selective Service, almost eighteen months ago, physicians have been examining all selectees and have received for that examination no remuneration. The physicians of Florida have done a better job than those of other states. The percentage of rejections in this state is lower than in any other. This fact speaks well for the conscientiousness with which they have performed their duty. It is unfortunate that little publicity has been given the fact that these physicians are donating their services, for it is generally understood by the public that they are being paid.

War as it is waged today creates for the medical profession a different problem than hitherto, as has been amply demonstrated in England. Civilians, as well as members of the armed forces, become casualties in large numbers and they must be cared for. In the British Isles today, all members of the medical profession are in the employ of the government, and there is virtually no private practice. It is unlikely that among the citizens of the United States, or Florida, there will be casualties on such a large scale as occurred among the civilian population in Great Britain, but we are faced with the possibility of casualties occurring in so-called defense areas as a result either of subversive activities or of attack by external forces. We must prepare for any eventuality, not knowing from which direction it may come. It seems certain that we will become directly involved in war in the near future, and if we neglect to protect ourselves, or to make arrangements for the care of any number of casualties, we shall be grossly negligent.

In Florida, the State Defense Council was organized almost a year ago, by appointment of the governor. It met first in November and was told at that time that it had four months in which to complete its organization. Apparently the government felt that we would be engaged in war by the middle of 1941. Upon recommendation from Washington, the legislature passed a law creating the State Defense Council and empowering it to do everything necessary to protect the civilian population of the state of Florida. It is empowered to command the cooperation of any and all governmental agencies in carrying out this mandate. The Council is set up in a number of divisions, which cover all phases of civilian life. Each division is headed by a chairman. The governor of the state is the chairman of the Council, and an executive director carries out the instructions of the body.

One of the divisions of the Council is the Division of Health and Housing, under which come all activities having to do with the medical profession. The division has been divided into several sections, one of which is medical service. For each of these sections an advisory committee has been named, consisting of one outstanding physician from each of the five congressional districts of the state. The advisory committee for the section of medical service has had several meetings and has recommended such procedures as its members feel are necessary to carry out the duties assigned to it. Each member has recommended a chairman of the section of medical service for every county and local defense council in his district. As with the advisory committees, the local county chairman has been appointed by the governor and he serves as the chairman of the Division of Health and Housing of the county or local defense council. Under this chairman in addition to the section of medical service there are ten other sections. They are as follows:

Hospital Administration: This section is made up of all hospital administrators in the county or local area. It is their duty to see that hospitals are informed as to what measures they must take in case of a major disaster. They include blackouts, removal of all patients who can be moved to other buildings in order to clear beds for casualties, the establishment of operating rooms in basements, arrangements for emergency lighting and other provisions.

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Drugs and Supplies: This group must determine the amount of necessary drugs, serums, vaccines, splints, bandages and other supplies on hand and where they are. It is its duty to see that these supplies do not fall below a certain required minimum in any county.

Nursing Service: This section is composed of all nurses in the county or area, and it is the duty of its members to enroll as many retired nurses as possible. They will be assigned to hospitals, aid posts and such other places as may be necessary.

Housing: This group is to make a survey of all available buildings for use as emergency hospitals and first aid posts. Rooms for storage of materials, blankets, stretchers and other supplies are to be selected.

Disposal of Bodies: This section is to be made up largely of undertakers, and they are to be prepared in case of a major disaster to arrange for proper identification and disposal of the dead.

Establishment of Blood Banks: This section is to promote the establishment of blood banks in each of the five congressional districts. A blood bank has been established independently in this district.

Public Health and Sanitation: This group is charged with putting into effect those recommendations which will be made from time to time by the state Council in connection with the protection of the health of the public.

Dental Health: This section is set up to aid and assist in all ways possible in connection with the dental health of the civilian.

Decontamination Corps: This group is to be trained to take charge of decontamination in the remote event of gas attacks.

Ambulance Service: This section is to provide ambulances, mostly of a temporary nature, such as station wagons and converted laundry trucks.

All of these sections are under the direction of the chairman of the Division of Health and Housing, and he is directly responsible for them. In addition, he is the supervisor of the medical service section, the key position among them all, for under his direction come the operation of aid posts and mobile and first aid units, the organization of operating teams and all necessary measures for the care of the injured.

Each county in the state has set up a county defense council following the same setup as in the state Council. It has the same divisions and same sections. In some cases, there have been set up local councils, which again follow the same plan of organization in regard to divisions and sections. These local councils have been organized in counties too big for one organization to work well and in areas where the population is so dense that it seemed unwise to have only one council charged with the entire responsibility.

On the shoulders of the local chairman of the Division of Health and Housing rests the responsibility of seeing that the work is actually performed. He is to carry out the instructions of the local and county councils as they are relayed to him from the State Defense Council. Bulletins go out to him from time to time advising him as to what steps should be taken in organizing the division, and when one considers that there are twelve sections in the division, it is easy to see what a staggering job he has undertaken. As always, however, the physicians who have been asked to undertake this task have been almost 100 per cent willing to assume the burden. When one remembers that all of this work is done on a volunteer basis, it is apparent that the sacrifice involved is indeed great.

It seems likely that as a result of all this organization for the care of the civilian population, the bogie of state medicine will rear its ugly head. As has been stated before, in England all the medical profession is now under the control of the government, and this plan is now being undertaken in a small way by our government. This trend is evidenced by the recent pronouncement that selectees who have been refused for military service or have been deferred because of physical handicaps, will be treated and rehabilitated at the expense of the government. Hospital and medical insurance is being recommended to large groups of civilians. All these straws tend to show which way the wind is blowing. When the statement is made, which is true, that the health and well-being of the civilian population is the concern of the government in connection with national defense, there is no denying it, and when the further statement is made that the distribution of medical care is not perfect, there is no denying that. What then are we to do if we are to forestall the attempt of the government to take over medical protection? I believe that if we give full cooperation to the setup as it is now organized and that if we can promulgate a plan whereby we are able to insure

adequate medical care to all persons, we will be allowed to guide, or at least greatly influence, the trend toward state medicine.

All of us should do our outmost to participate to the fullest extent of our ability in the present national defense program. From present indications, the representatives of our profession are going to do just that. So far everyone who has been asked to participate has done his best. If this cooperation continues, and I am confident that it will, I firmly believe that therein lies the secret of continuing the practice of medicine under our control.

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MECHANISM OF NEUROLOGIC SYMPTOMS APPLICABLE TO GENERAL PRACTICE

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Neurologic terminology is confusing unless it is used frequently. A brief review of neuroanatomy and neurophysiology will help to fix in one's mind certain syndromes. Symptoms identified in general practice are mostly of motor and sensory origin. Discussion of these symptoms follows. The little story of the German picking hops is better remembered than the order of sequence of the cranial nerves. The general relationship of motor and sensory areas and tracts may be remembered by the designation for amperes, anterior motor and posterior sensory.

Destructive lesions of the central motor nerves cause irritation at first, which results in hypotonia of the muscles and diminished reflexes. After a month or six weeks, the symptoms change to hypertonia or spasticity, and the deep reflexes become hyperactive. The Babinski sign, clonus and the atrophy of disuse appear. If a patient presents the latter symptoms while in coma from hemiplegia, intraventricular hemorrhage should be suspected and a poor prognosis given.

Destructive lesions of the roots of the anterior or motor horns of the spinal cord cause increased deep reflexes and hypertonia of the muscles for a few hours. The symptoms, however, change early to flaccid muscles, a considerable degree of paralysis, abolished deep reflexes, great vasomotor disturbance and the atrophy of degeneration. Symptoms are limited to the part of the body supplied by the diseased horns. Infantile paralysis is an example of acute disease of the anterior horns of the spinal cord.

The central motor system is composed of tracts that arise in the brain. Those that arise in the prerolandic area of the cortex are known as pyramidal tracts; those that arise from the basal ganglions are known as extrapyramidal tracts. The peripheral motor nerves arise in the roots of the anterior horns of the spinal cord.

The pyramidal tracts descend through the anterior two thirds of the posterior limb of the internal capsule to the cord. One tract decussates or crosses the midline low in the medulla to be continued in the lateral column of the cord. This is the crossed or lateral pyramidal tract. The other is in the anterior column of the cord. It does not decussate and is the direct or anterior pryamidal tract. At each spinal segment, some fibers depart from each pyramidal tract to form a synapse with cells of the anterior horns at the level of each spinal segment. Those from the direct tract cross the anterior white commissure of the cord to the contralateral horn.

Among the extrapyramidal motor tracts, the rubrospinal, tectospinal and vestibulospinal tracts are probably the most important. The rubrospinal tract decussates after leaving the red nucleus from which it arises and passes down the lateral column of the cord. The tectospinal tract arises in the roof of the midbrain and decussates at the caudal end of the aqueduct of Sylvius to pass down the anterior column of the cord. The vestibulospinal tract has its origin in Deiters' nucleus in the medulla. It descends the lateral column of the cord to form a synapse with the roots of the contralateral anterior horn. Its fibers behave much like those of the anterior pyramidal tract.

It is evident by the great variation of origin and decussation of motor tracts that complete paralysis is impossible except by complete destruction of the cord. In that event the symptoms would be present only below the area cut. It is further to be recalled that one axis cylinder transmits impulses from the brain cell to the anterior horn.

Sensory impulses are received from peripheral sensory nerves into the roots of the posterior horns of the cord. They are passed upward by relay

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rather than by a continuous axis cylinder from the horn of the cord to the brain.

Fibers passing upward in the posterior tracts of the cord end at the nucleus gracilus and the cuneate nucleus in the medulla. Fibers, called the fillet, convey sensory impulses from these nuclei to the thalamus. The fillet decussates above the nuclei of origin. Impulses are further transmitted from the thalamus by the thalamocortical tract running through the posterior part of the internal capsule. They go to the postrolandic area of the cortex.

In addition to the posterior tracts of the cord, the anterior and lateral spinothalamic tracts convey impulses in the lateral columns of the cord. They receive impulses from short fibers in the gray matter of the cord that arise in the contralateral posterior horns. The tracts themselves do not decussate. They end in the thalamus.

Tactile sensibility is conveyed by all sensory tracts. Sensibility to pain and temperature is conveyed by the spinothalamic tracts. Deep sensibility is conveyed by the posterior tract.

Lesions of the cauda equina are hard to locate because they are below the cord structure and symptoms are of the type associated with the peripheral nerves. Roentgen studies, with or without the use of iodized oil or air, are almost always necessary for identification of caudal lesions. Negative findings are no assurance of normality. Iodized oil is painful. We have discontinued its use and now prefer to ask an orthopedic surgeon to explore when in doubt.

Before discussing the spinocerebellar tracts, we shall mention methods of testing by tools in every practitioner's bag. The bowl of a stethoscope makes an excellent percussion hammer. A piece of cotton or a corner of a sheet serves to test tacticle sensibility. A pin may be used to test pain. Spoons removed from warm and cool water enable one to elicit sensibility to temperature. Deep sensibility may be tested by the position of joints or motion of parts without visual help. The tuning fork is the polite means, but it is rather an unnecessary instrument for general practice.

Two spinocerebellar tracts course the periphery of each lateral area of the cord. The anterior or indirect cerebellar tract leads upward to a point near the thalamus. It then bends downward and backward to reach the cerebellum by way of the superior cerebellar peduncle. The lateral or direct cerebellar tract passes upward to enter the cerebellum through the inferior cerebellar peduncle.

Three groups of efferent fibers leave the cerebellum. The cerebellifugal group goes by way of the superior cerebellar peduncle to the red nucleus and the thalamus respectively. The cerebellipedal tract transverses the inferior peduncle to Deiters' nucleus. This nucleus was mentioned as the origin of the vestibulospinal motor tract. It further receives fibers from the internal ear and extraocular nuclei. It is an important reflex nucleus to maintain balance.

The chief function of the cerebellum is the regulation of movement and posture. This is done through the cerebrospinal apparatus. Function, after acute lesion of the cerebellum has occurred, is generally regained because the cerebrum assumes the function no longer exercised by the cerebellum.

In contrast to ataxia of the posterior column, the ataxia of cerebellar disease is constant with the eyes open or closed. Because of the proximity of the cerebellum to the pons and medulla, most cerebellar symptoms are masked by pressure on other structures.

Among the symptoms of cerebellar disease is pendular knee jerk. This appears when the leg hangs free and the tendon is struck. The leg oscillates a number of times before coming to rest. Another symptom is the inability to judge the weight of objects held in the hands. Past pointing, ataxia, vertigo, nystagmus, hypotonia and exaggerated postural reflexes are suggestive of cerebellar lesions. Intense constant occipital headache is present in tumor formation. The pain may radiate to the upper part of the back. Cerebellar ataxia may be imitated by tumor of the frontal lobe through stimulation of the frontopontocerebellar tract.

All but the first and second cranial nerves have their peripheral nuclei in numerical order from the upper part of the pons to the lower portion of the medulla. The nerves run from their respective nuclei towards the base of the brain. The trochlear nerve is the only one that has a posterior exit. Also, it is the only one that has complete decussation. The cortical fibers of the other nerves decussate. All nerves of the brain stem except the fourth emerge on the side from which they take origin. The seventh or facial nerve has both unicortical and bicortical central innervation. The frontal fibers of the seventh

nerve and all the fibers of the ninth, tenth, eleventh and twelfth nerves have upper neurones supplying respective nuclei from both sides of the cerebrum; that is, they have bicortical innervation. Lesions of one upper motor neurone of nerves with bicortical innervation cause minor symptoms. Major symptoms are present when a nucleus is destroyed. Lesions above the nucleus of nerves with unicortical supply cause paralysis in great degree, but without atrophy of muscles.

Hemiplegia is due in most cases to hemorrhage, thrombosis, or embolus. Lesions in the internal capsule cause paralysis contralaterally. No fibers are decussated. Cranial nerves with bicortical supply suffer little. Lesions of the brain stem result in alternating paralysis. The paralysis of the cranial nerve involved is on the side of the lesion and that of the body is on the side opposite to the lesion. The fourth nerve is of course excluded. The other nerves do not decussate after leaving the nucleus of origin.

Destruction laterally of one half of one or more segments of the cord produces symptoms known as the Brown-Séquard syndrome. Segments below the one or ones injured are centrally innervated by the anterior pyramidal and the vestibulospinal tracts of the uninjured side. They do not decussate prior to reaching the segment of the cord to which their fibers depart. The powerful crossed pyramidal, the rubrospinal and tectospinal tracts on the side involved have been severed. Destruction, therefore, of one half of the cord laterally causes homolateral motor paralysis that is pronounced but incomplete. There is vasomotor paralysis because of interruption of the vasomotor fibers passing down the lateral column. There is disturbance of sensibility with ataxia due to section of the posterior tract or tracts. Early hyperesthesia to touch is due to cells of the posterior horns interpreting the sensory impulses of touch as those of pain and sending the impression through the short fibers that lead to the spinothalamic tracts of the other side of the cord. Symptoms of the cutting of the anterior and lateral cerebellar tracts are masked by lack of reflex through severed motor tracts. There is disturbance of the sensibility to pain and temperature contralaterally, due to destruction of the spinothalamic tracts.

The initial lesion in amyotrophic lateral sclerosis is an irritation of the nuclei of the anterior horns of the upper portion of the cord or of the nuclei of the bulb. Fibrillation, therefore, is an early symptom. It is followed by atrophy of the hands which gives them a clawlike appearance. The deep reflexes are diminished or lost in the arms. At this stage, the case assumes some of the characteristics of a spinal muscular atrophy or chronic poliomyelitis. Involvement of the pyramidal tracts follows. When they are involved, the deep reflexes, even in the atrophic arms, become hyperactive. The lower extremities give evidence of hypertonia or spasticity. The disability presents a phenomenon indicative of joint involvement of the anterior horns and the pyramidal tract. The sensory apparatus escapes injury as a rule.

Syringomyelia begins as a gliosis about the central canal of the cord or bulb. If there is pain, it is of a burning character. There is early loss of sensibility to pain and temperature of the parts supplied by the segments involved. This loss is due to destruction of the short fibers in the gray matter leading to the spinothalamic tracts, and it is bilateral. The sense of touch is retained at this time. This phenomenon is called the dissociation symptom. The initial area of inflammation is replaced by cavitation, which extends to involve the anterior horns with resulting symptoms of early irritation and later motor paralysis. With paralysis, there are atrophy and trophic disturbances. The syrinx may spread irregularly to destroy other tracts or other segments.

The pathologic development of tabes begins with a mild inflammation of the posterior spinal ganglions, ganglionic roots and meninges. The disease then selects the posterior columns and rarely involves other columns. It does not invade the gray matter as a rule. By reason of involvement of the posterior roots and spinal ganglions, pain is an early symptom. The inflammation probably involves the sympathetic rami and causes the visceral pain. Without destruction of the spinothalamic tracts, recurrent attacks of pain do not abate. Because the posterior columns are involved, deep sensibility is diminished or lost, and ataxia and loss of sensibility to the tuning fork result. Loss of the knee jerk is due to the fact that the posterior root forms the afferent arm of the reflex arc. The optic and extraocular nerves are commonly affected. Degeneration of the optic nerve is persistent. Paralysis of the extraocular nerves is fleeting and recurring.

In conclusion, it is hoped that this summary may be useful in analyzing the "why" of common symptom groupings.

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NEPHRITIS IN CHILDREN AS OBSERVED IN FLORIDA

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Nephritis in children occurs infrequently in south Florida despite the fact that respiratory infection, the usual antecedent infection in nephritis, has been shown to be as prevalent in Florida as in northern areas.[1] The relative absence of streptococcic diseases and the more favorable course of imported cases of these diseases in south Florida have been a common general medical as well as pediatric observation, particularly in regard to such diseases as rheumatic fever, arthritis and scarlet fever.

The relative infrequency of these diseases is difficult to explain upon any other grounds than climatic differences, the discussion of which is beyond the province of this paper. Suffice it to say in this connection that the high incidence of year round ultraviolet solar radiation, the insular type of climate, the minimum pollution of the air and an almost constant relative humidity may well be the determining factors.

Tables 1, 2 and 3 show the comparative incidence and mortality in hospital cases of nephritis, acute and chronic, and nephrosis in Miami, Louisville and Chicago. While the number of cases of nephritic disease is limited, the number of total admissions is great enough to enable one to draw accurate conclusions as to incidence.

A simple generally accepted classification of nephritis in children is (1) acute hemorrhagic nephritis, (2) chronic nonspecific nephritis and (3) nephroses. As shown in table 4, an analysis of nephritic disease in 300 children observed by Aldrich[2] revealed that other nephritic conditions are seen in childhood, but with relative infrequency. The nephritis of childhood differs from adult types because of the much greater regenerative capacity during childhood. This difference has resulted in some confusion in classification. The foregoing classification is followed in the ensuing discussion of nephritis.

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Read before the Dade County Medical Society and the Florida East Coast Medical Society.

ACUTE HEMORRHAGIC NEPHRITIS

This condition usually occurs in childhood or adolescence and follows an acute respiratory infection of streptococcic etiology. Evidence exists that nephritis is not a result of the infection, but is an exceptional overresponse to this type of infection.[3] The mode of onset bears no relation to the severity of the preceding infection. It may be an allergic reaction of an anaphylactic nature, as thought by some observers.[4]

The clinical picture is familiar. The onset is sudden with convulsions, nausea, vomiting, headache, dizziness and visual symptoms. Edema is usually present, and hematuria is always present. Other urinary evidence consists of albumin, casts and leukocytes. Specific gravity is usually high, this fact being an important point in differentiation from chronic nephritis. The urinary output is reduced, but rarely does complete renal failure occur. Concentration and dilution tests are usually normal in the acute stage. Hypertension of a moderate degree occurs with frequency. Retention of nonprotein nitrogen occurs in about one-half the cases. Cerebral complications were noted in 23 per cent of Aldrich's patients.[2] Cardiac involvement was reported in 60 per cent of the cases studied by Lyttle.[5] Rubin and Rapoport[6] reported that in 14 of their 55 cases there was serious myocardial damage, definite decompensation occurring in 12. Cardiac failure was noted in only one of the cases studied for this presentation. Cerebral manifestations, however, occurred in 50 per cent of these cases. No death occurred from acute nephritis in this series. The usual mortality rate reported is from 5 to 10 per cent in acute nephritis.

A brief history of the case in which the patient experienced cardiac failure follows.

REPORT OF CASE

Case 1. C. W., a boy aged 7, was admitted to the Jackson Memorial Hospital on October 27, 1938, with a history of tonsillitis three weeks previously with associated pyuria. Edema of the face was noted one week previous to admission.

A considerable degree of edema was present on admission, respiration was increased, the pulse rate was rapid, and the usual urinary evidence of hemorrhagic nephritis was present. Myocardial failure with pulmonary edema developed within twenty-four hours.

Rapid recovery from a critical condition occurred in forty-eight hours after the patient had been placed under an oxygen tent and digitalis and a 25 per cent solution of glucose had been administered intravenously.

Electrocardiographic changes consisted of inversion of the T wave in all leads and left axis deviation. These changes have now disappeared, and no clinical or laboratory evidence of past infection exists.

After being kept in bed for two weeks, the patient was dismissed as the laboratory and physical examinations gave normal results.

The rapid recovery in this case indicates the tremendous ability of children to recover completely from severe nephritis with associated myocardial involvement.

After the acute stage has subsided, treatment is directed first toward removal of potential foci of infection. Intoxication is combated by adequate intake of fluids and by catharsis. Fluids are urged regardless of edema in an effort to dilute waste products and facilitate elimination by the kidneys. Sodium chloride is restricted as sodium favors edema. Diet during the acute early stage should consist of sweetened fruit juice and milk. Webb[7] was of the opinion that protein should be restricted during the initial and the terminal stage. It has not been shown that a diet of proteins in the presence of renal irritation and residual nitrogen may not cause irritation when these products are eliminated.

The three complications of acute nephritis requiring immediate attention are (1) renal failure, (2) hypertensive encephalopathy or cerebral manifestations and (3) cardiac failure. Constantly rising blood pressure would indicate an impending complication of the nature of one of these conditions.

Renal failure was present in 3 per cent of the cases reported by Rubin and Rapoport[6]. The associated anuria, edema, retention of nitrogen and acidosis presented a syndrome similar to that of uremia, they noted, except for the edema. These authors successfully treated their patients by forcing glucose and saline solution intravenously and giving frequent injections of a 50 per cent solution of glucose. A normal or increased blood volume was maintained in an effort to increase filtration pressure with resulting excretion of urine. One observer[8] reported excellent results with 10 cc. of a 10 per cent saline solution given intravenously each day.

Cerebral manifestations are always associated with hypertension and are caused by cerebral edema. Treatment is aimed at relief of the generalized vasoconstriction, which is the cause of the hypertension and cerebral edema. The best results have been obtained by the administration of a 50 per cent solution of magnesium sulfate orally or rectally. Massive doses are tolerated without diarrhea. It may be given intramuscularly in amounts of 0.2 cc. of a 50 per cent solution for each kilogram of body weight if necessary. If convulsions are not controlled by this treatment, a 2 per cent solution of this salt may be given intravenously, or spinal puncture may be tried. Fluids should be restricted.

Cardiac complications consist primarily of myocardial involvement. Treatment is directed toward lessening peripheral resistance by relieving hypertension with magnesium sulfate and restriction of fluids. Cardiac efficiency is improved by the administration of digitalis and morphine, the use of the oxygen tent and the intravenous injection of hypertonic glucose.

After the acute stage has subsided, care should be given the general nutritional and hygienic condition. The patient should be kept in bed until hematuria disappears. The course of acute nephritis is a moot point. Snoke[9] and other observers concluded that in the majority of cases the disease enters a latent period and may later recur as chronic nephritis of the adult type. Boyle, Aldrich, Frank and Borowsky[10] have much to support their contention that these cases either have a fatal ending or eventually go on to complete healing. Regardless of these varying opinions, it is agreed that all cases should be kept under strict observation for many months before the patient is considered cured.

CHRONIC GLOMERULAR NEPHRITIS

Chronic nephritis occurs infrequently in children. The condition is characterized by edema, hypertension, increase in the retention of nitrogen, albuminuria, casts, hematuria and a rapidly fatal or a chronic course. Boyle, Aldrich and their associates[10] offered convincing evidence that this condition results from nutritional and hygienic factors rather than from infection or from a previous attack of acute nephritis, as formerly thought. They observed that the condition is seen in only the malnourished dispensary class of patient. The presence of but 3 cases of chronic nephritis in my series does not support their views. The nutritional factor would not seem to be the only factor as the dispensary patients in Florida are as poorly nourished as those in northern climes. Climatic and geographic factors must be a contributing cause.

The onset of this type of the disease is insidious. Headache, nocturia and pallor are frequent complaints during the early stages. Death may occur early, or the condition may run a chronic course over a period of many years. Progress of the disease is determined accurately by concentration and urea clearance tests. Death may result from uremia, but occurs usually from intercurrent infection. It is important to differentiate chronic nephritis from acute nephritis and nephrosis as the latter two conditions can be given a much more favorable prognosis. Acute hemorrhagic nephritis is always preceded by acute infection. Neither hematuria nor hypertension is associated with nephrosis. In many patients with chronic nephritis a nephrotic syndrome develops. The course of chronic nephritis is usually characterized by remissions and exacerbations precipitated by infections.

Treatment formerly consisted of restriction of protein, fluids and activity. For years results were greatly disappointing. Aldrich[2] revolutionized treatment by instituting an entirely different regimen. A diet with adequate protein, minerals and vitamins for normal growth was given, and the activity of the patient was increased. Results have been extremely favorable; much improvement in the general condition of the patients and cures in several instances have been obtained. The terminal complications of cerebral edema and renal and cardiac failure are handled as in acute nephritis.

NEPHROSIS (DEGENERATIVE TUBULAR NEPHRITIS)

This is a chronic disease that occurs infrequently in children and young adults. No true case of nephrosis was observed in the series reviewed; however, 2 cases of chronic nephritis with a nephrotic syndrome occurred. The onset is insidious; pallor and lassitude are characteristic. Edema and albuminuria in great degree are constantly present. Nephrosis is considered by some observers as a stage of chronic nephritis, but the majority of investigators believe it to be an entirely separate clinical entity. A nephrotic syndrome may precede, follow, or be associated with the glomerular nephritis. The etiology of nephrosis is unknown. The pathologic change is a tubular degeneration. Diagnosis is based on the presence of albuminuria and edema in considerable degree in the absence of hematuria and hypertension. Lowered plasma protein and elevated blood cholesterol are constant.

According to Boyd[11] the course is influenced by the type of onset. In cases having an acute onset the disease runs a short course with recovery occurring; in cases with a more gradual onset, recovery is slow if it occurs at all. In a series of 36 cases, reported by Schwarz and Kohn,[12] there was recovery in 50 per cent. In this series infection of the accessory nasal sinuses was not an important etiologic factor. The course is characterized by frequent remissions and exacerbations, the patient usually dying from an intercurrent infection, they observed.

The basal metabolic rate has been reported low. Farr,[13] however, in repeated metabolic studies observed no significant deviation from normal rates.

Treatment is unsatisfactory. The patient should be kept in bed during the entire illness. All possible foci of infection should be removed when possible, and efforts should be directed toward general improvement. Avoidance of intercurrent infections is extremely important. Thyroid medication seems to be of value in some cases. Repeated blood transfusions are helpful in combating the usually present anemia and in increasing the lowered protein content of the blood. Cardiac complications are handled in the usual manner.

Most of the treatment is directed toward lessening the excessive edema, which is massive to the extent of ascites and hydrothorax in many cases. This edema is caused by the lowering of the protein content of the blood, particularly the serum albumin, which results in a low collodial osmotic pressure. Attempts are made to correct this condition by restoring the protein of the blood with a diet high in proteins and repeated transfusions, but with little success. Acacia administered intravenously has been used by some clinicians with apparently good results. Urea and the mercurial diuretics have been used with moderate success. Hypertonic glucose is of occasional value. Potassium salts may be tried.

Schiff[14] described a new therapy that promises better results, but it has not been used to any great extent in this country. It consists of a diet of raw vegetables and fruits at first. He reported that diuresis sets in after a few days and edema recedes. The yellow of egg, which replenishes the lipoid losses from the blood, is next offered. On further improvement a meal of meat is given; then salt-free vegetables and potatoes are added. Schultz and Collier[15] described an alkali treat-

ment with which they obtained dramatic improvement in their cases. By bringing the plasma bicarbonate to a normal level and holding it, they reported, diuresis and subsidence of edema occur; also, the output of albumin is generally greatly diminished. In this treatment the alkalies are given in the form of potassium citrate and bicarbonate and sodium citrate and bicarbonate.

Mechanical measures such as multiple incisions and aspiration are necessary in many instances to relieve the great degree of dependent edema and ascites. Cardiac or respiratory embarrassment may necessitate removal of fluid from the pleural cavity.

SUMMARY

A classification of nephritis that seems to be generally accepted has been presented. The essential features of each type have been reviewed, and available therapeutic measures have been discussed in some detail. The infrequency of nephritis in south Florida is definitely established, lending proof that this disease is a result of streptococcic infection and that its frequency, severity and course are markedly influenced by geographic and climatic factors.

TABLE 1

Incidence and Mortality of Acute Nephritis in 43,612 Pediatric Hospital Admissions in Miami, Louisville, and Chicago

9000 Hospital Admissions	Incidence	Mortality
Miami		
Dade County Hospital	24 cases or	0
Jackson Memorial Hospital	.26 per cent	
13,500 Hospital Admissions		
Louisville		
Louisville City Hospital	66 cases or	7 cases or
Children's Free Hospital	.5 per cent	10 per cent
21,112 Hospital Admissions		
Chicago		
Children's Memorial Hosp.	177 cases or	9 cases or
	.85 per cent	5 per cent

TABLE 2

Incidence and Mortality of Chronic Nephritis in 43,612 Pediatric Hospital Admissions in Miami, Louisville and Chicago

9000 Hospital Admissions	Incidence	Mortality
Miami		
Dade County Hospital	4 cases or	2 cases or
Jackson Memorial Hospital	.04 per cent	50 per cent
13,500 Hospital Admissions		
Louisville		
Louisville City Hospital	22 cases or	3 cases or
Children's Free Hospital	.16 per cent	13.6 per cent
21,112 Hospital Admissions		
Chicago		
Children's Memorial Hosp.	43 cases or	14 cases or
	.2 per cent	32 per cent

TABLE 3

Incidence and Mortality of Nephrosis in 43,612 Pediatric Hospital Admissions in Miami, Louisville and Chicago

9000 Hospital Admissions	Incidence	Mortality
Miami		
Dade County Hospital	0	0
Jackson Memorial Hospital		
13,500 Hospital Admissions		
Louisville		
Louisville City Hospital	16 cases or	2 cases or
Children's Free Hospital	.11 per cent	12.5 per cent
21,112 Hospital Admissions		
Chicago		
Children's Memorial Hosp.	57 cases or	12 cases or
	.27 per cent	21 per cent

TABLE 4

Analysis of 300 Nephritic Conditions Observed By Aldrich

Acute postinfectious hemorrhagic nephritis	70.0	per cent
Chronic nonspecific nephritis	14.5	"
Nephrosis	8.0	"
Renal infantilism	3.0	"
Subacute bacterial endocarditis with nephritis	2.0	"
Syphilis with nephritis	1.5	"
Tuberculosis with nephritis	1.0	"
Amyloid disease	rare	

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THE HOSPITAL AND THE NATIONAL EMERGENCY

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Before I get under way, I want to make it plain that while I work for the government, I do not speak for it. Any ideas or opinions that I may express are entirely my own and have no official sanction. I venture to talk on this subject only because I read much hospital literature and talk with many hospital officials, most of whom are deeply involved in problems associated with the emergency.

It would be difficult to find another institution as delicately attuned to social and economic trends as the hospital must be. Even the lightest straw, blown about by the political winds, may gravely affect the hospital in its management, its endowment, or its public relations. In these days, the hospital administrator must have both feet on the ground and his eye on the main chance. He must keep his nose to the grindstone, his ear to the earth and his finger on the pulse of public opinion, an undertaking that is no mean acrobatic stunt.

Still gasping from his struggles with unionism and social security, both of which are unfinished battles, he finds himself face to face with that ogre, the national emergency, whose tenacles are reaching for him from many angles. Authorities seem to differ on the number of tentacles possessed by the average ogre, but this one has at least five. They are the medical staff, the interns and residents, the nurses, procurement of supplies and equipment, and hospital preparedness. The national government has recognized these difficulties and has taken definite steps to ameliorate them, but still there remain obstructions which administrators themselves must surmount in their hospital management.

THE MEDICAL STAFF

One of the first essentials in assembling an army is physicians. They are needed to make the physical examinations so that the unfit and those with communicable disease may be excluded. They must plan the extensive public health work for ships, camps, training stations and the adjacent civil communities. They must operate the hospitals which are needed wherever men of the armed forces may be assembled. There is only one source from which the government may obtain the great number required, and that is the young physicians in civil practice.

Careful physical examinations at the time of entering the military services are important to the government, for the pension laws provide that physical disabilities which develop during service are an incident of the service, even though it is obvious that they have existed for years. I used to wonder how so many serious defects and deformities could be passed by the medical examiner at the recruiting office. Recently I heard a member of a physician's family say, "Doctor can't spare time from his practice to examine the selectees. He has a third-year medical student do it for him." Uncle Sam deserves better service than that, and so do the taxpayers.

When the young physicians from civil practice are called to military duty, the most active men on the staffs of many of the hospitals are taken away, and a much heavier load falls on the older generation. Men who are just beginning to realize the luxury of saying, "My assistant will take care of the case," and going back to bed when called at night, will have to take up again the burden of night calls. In some cities there is beginning to be advocated a plan, already developed by the English, to take some steps to protect the practice of the younger men who are called for defense activities.

One of the foremost of the problems that faces the staff under these circumstances is to determine who will write the medical records. These are most vital to the hospital because good records are essential to recognition by the American Medical Association and the American College of Surgeons. In one large city hospital three courses were submitted to the staff:*

1. They might send their office records of the patient to the hospital, to be copied into the hospital medical record.
2. The hospital would supply a medical stenographer, to whom the doctor might dictate the history and physical examination at the bedside.
3. They might themselves write the history and medical record for each of their patients.

The specialty groups, which have been organized in many hospitals, have not yet been

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*Personal communication from Dr. Clement C. Clay.

called to active duty. It does not seem likely, at this moment, that they will be called unless this country becomes an active belligerent in the war. Since most of the specialty groups are in the larger hospitals, their departure may not have such a serious effect on the hospital as many now fear.

Careful study of the work done by individual employees of hospitals has shown that some of the duties now performed by each group can be passed down to another group with less technical training. For example, with increasing frequency anesthetics are being given by nurses instead of physicians. Many of the nurses' duties, in turn, are being passed down to nurses' aids.

In Canada an agreement has been reached whereby in hospitals which are unable to obtain a sufficient number of physicians, nurses may perform certain procedures. They include the taking of blood pressure readings, the administration of subcutaneous and intramuscular injections and of intravenous injection of saline, glucose, and other fluids for medical or diagnostic purposes, the taking of blood for serologic tests, the removal of sutures, the recording of histories (except the physical examination) and the writing of progress notes as dictated by the physician.

Once a step of this sort is taken, it usually means that the physician permanently relinquishes his sole right to perform these procedures, a right that he was ready to fight for a short time ago. Once it is shown that these tasks can be done by nurses as well as by physicians, their performance is never again wholly the physician's prerogative. The only chance to recover his rights in this particular would be for trained nurses to become more scarce than physicians.

A number of hospitals have found it advisable to invite physicians to join their staffs who were previously unable to attain this privilege. Under these circumstances the plan of making all staff appointments on a yearly basis would be of great advantage. The misfits who do not meet their obligations, or do not uphold the hospital standards, may be eliminated by the simple device of failure to reappoint them. Institutions and individual physicians alike will find it necessary to make many adjustments and to sacrifice standards which they formerly thought unalterable. Every effort should, however, be made to preserve these standards at the highest possible level. Every concession which lowers them should be accepted only as a temporary measure.

INTERNS AND RESIDENTS

The shortage of house officers is no new thing. It has been receiving increasing notice from educators for some years. During the year ending June 30, 1941, the degree of Doctor of Medicine was conferred on 5,275 persons in the United States. In hospitals approved by the American Medical Association there are 6,874 internships. Since many graduates do not seek appointments as interns, there would be vacancies even without the emergency. Also approved were 4,683 residencies and 550 fellowships.

The preparedness program has already had a serious effect on the house staffs of many hospitals. One new development may be suggestive of future needs. Large and famous hospitals, which have always been able to choose their interns from a great excess of applicants, are today advertising in the journals, trying to get interns and residents. This dearth indicates hard times ahead and severe competition for smaller hospitals and those which are remote from the large centers of population.

One step toward easing the shortage of house officers is the recommendation recently made by the executive council of the American Medical Association that medical colleges which can do so should increase the enrollment of the class entering in 1941 by 10 per cent. Add to this the recommendation that medical schools continue instruction during the summer so that the time of graduation may be advanced, and one sees that definite progress is being made toward a solution of some of the hospital's problems.

A mechanism has been provided whereby the intern may secure a deferred rating so that he may complete his term. The status of the resident is not so well established, and it appears to be the obligation of the individual hospital to convince the local authorities that its residents and interns are essential to its work.

Each hospital should undertake a careful analysis of all the duties of its house staff. The time of the interns must be conserved for work that no substitute can perform. Clinical time is to be increased and clerical time reduced. Nonprofessional persons should be provided to relieve the intern of much of the history taking, clinical recording, first aid and dressings, and other duties that can be delegated to less essential personnel.

Recent graduates and junior members of the staff may be asked to come in and give their aid

in emergencies. It will probably be necessary to pay young physicians either for part time or whole time service for doing house staff work.

NURSES AND NURSING AIDS

In the United States there are estimated to be about 200,000 nurses, perhaps from 15 to 20 per cent of whom are married or retired. The number of nurses needed by the Navy and the Army is stated to be about 10,000. Twenty thousand more will be needed for visiting nurses, increased public health work and defense industries. In the hospitals, many duties are being passed on to nurses that formerly were done by physicians. All these forces, acting together, have suddenly produced an acute shortage of nurses.

The need was quickly recognized, and Surgeon General Parran of the Public Health Service appealed to the Congress for funds. This request was promptly approved, and money from the federal treasury is now available for aid in the training of nurses. These funds will be used in four ways:

1. For refresher courses to equip retired or inactive nurses to resume nursing work.
2. To increase the capacity of nursing schools.
3. To mobilize the Red Cross reserve nurses for military needs.
4. To train nurses' aids, thereby providing partly trained women, several of whom will work under the direction of a trained nurse.

At present, the use of these funds is limited to nursing schools connected with hospitals having a daily average of at least 100 patients. This restriction is necessary because the appropriation amounts to only $1,250,000. The hope has been expressed that additional funds may later make it possible to extend this opportunity to smaller schools. About half of the 500 eligible schools have already applied for aid in expanding their teaching facilities.

The organized nurses look with dubious eyes on the training of so many additional women, fearing that there will be excessive unemployment after the emergency ends, which might lead to disastrous competition with lowering of standards. But this future possibility cannot be allowed to interfere with action to relieve the present needs.

The distribution of nurses is somewhat uneven at present. It appears that nurses in the South, for various reasons, have volunteered for military duty more promptly than their sisters in the North. Also, there is a sudden increase in the marriage rate among nurses, both in and out of the military services.

The American Red Cross has assumed the responsibility of training 100,000 volunteers for service as nurses' aids. These specially trained women will be of inestimable value in helping to meet the shortage of nurses. They will be trained to serve as assistants to nurses in hospitals, clinics, or the home, but will not be used to replace paid workers. Under the supervision of a graduate nurse, they will supplement the more highly trained personnel. Selection and training will be in the hands of the more than 3,700 Red Cross chapters.

The course provides eighty hours of instruction in a period of seven weeks, with classes limited to 30 students. Those who complete the course will be enrolled in the Volunteer Nurse's Aid Corps of the Red Cross and will be expected to render at least 150 hours of adequate service yearly.

Teaching of nurses' aids has three objectives:

1. To train a group of intelligent women to give simple bedside care, and to make them familiar with the ideals and routine of the hospital.
2. To train them as assistant workers in disasters occurring in the civil community.
3. To make them familiar with the details of care of the sick, both at home and in the hospital.

There is also impending a shortage of x-ray and laboratory technicians, occupational therapists, physical therapists and other technical hospital aids. For the past two years the American Red Cross has been listing technicians in these branches and appraising their suitability for mobilization. Thus every shortage of hospital personnel has been realized, and steps have been taken to ease the institutions over this difficult period.

PROCUREMENT OF SUPPLIES

Difficulty in securing certain articles for hospital use developed early. The civilian hospitals found themselves in sharp competition with the Army and the Navy, also with the Red Cross and buyers for foreign use. For example, supplies to the value of $251,698 were shipped overseas in 1940 by the Medical and Surgical Relief Committee of America. Early in the course of the emergency there was a tendency toward overbuying and hoarding by some hospitals, but it soon became evident that the chances of loss were at least equal to the chances of profit by hoarding.

The Office of Production Management, in collaboration with the Office of Price Administration and Civilian Supply, and the Health and Medical Committee of the Federal Security Agency, has recently formulated a plan, known

as the Health Supplies Rating Plan, to secure an adequate supply of certain materials which are essential to the health of the armed forces and the civilian personnel. This plan is designed to assist a producer of such supplies in procuring material so that he can continue to produce articles which are essential to hospitals, clinics and sanatoriums. The plan makes provision only for materials to be supplied to the manufacturer. It does not establish priority among individual hospitals in securing their supplies from the producer.

In addition to this plan, there is a civilian allocation program, designed to provide sufficient supplies of fourteen essential groups of materials to fill the needs of hospitals, clinics and sanatoriums. The highest civilian rating is given to orders placed by such institutions. It is emphasized that the preferences granted under this program shall not be used to accumulate excessive inventories.

With these precautions taken so early, there should be little interference with the flow of raw materials to the manufacturer and of finished products to the hospitals. No doubt there will be many kinks to iron out, but the sympathetic and cooperative attitude already shown by the Office of Production Management and the Office of Price Administration and Civilian Supply indicates that every effort will be made to avoid difficulties in securing supplies and equipment for hospitals.

It will be necessary for each hospital to protect and conserve its resources, for replacements may not always be available. Substitution of less desirable items for the preferred ones will be increasingly necessary, and there is no class of citizen who will complain louder over this replacement than will the physician.

There will undoubtedly be advances in prices, with an additional burden on the hospital finances. One effect that can safely be predicted is the more rapid spread of uniform methods for hospital accounting and the perpetual inventory. When a hospital administrator applies for priority in the purchasing of supplies for his institution, he should be prepared to show the average rate of use, the safe minimum quantity, the replenishment order point and the amount on hand of each article required.

HOSPITAL PREPAREDNESS

If world affairs continue to develop along present lines, it is reasonable to anticipate that the United States may become an active belligerent. No one can foresee just what type of hostilities will follow its entrance into the war, but it would be the height of folly not to profit by the war experiences of other hospitals. The time is at hand when hospital boards and executives must give serious thought to the safety of their institutions in case of attack by the enemy.

England, after two years of strenuous effort to prepare for defense against aerial attack, found herself woefully deficient in many ways when the actual test came. This country is getting a late start, but the Office of Civilian Defense is getting energetically to work on the problem. A uniform plan is being developed which will adapt the knowledge gained in England's bombing experience to the special conditions existing in this country.

The day is gone when a white flag with a red cross may be depended on to give a hospital immunity from attack. Up to the time of the last war, military commanders vied with each other in the punctiliousness with which they observed the niceties set forth at the Hague and Geneva conventions. They are now no better than those of any other treaty, and treaties are currently worth a dime a dozen.

The likelihood of an attack on a hospital should be judged by its neighbors, rather than by the distance from the seaboard. If an institution is surrounded by industrial, transportation or administrative activities which would be worth a bomber's attention, its distance from the borders of the country would be of little importance. The hospital itself might not be the actual target, but it certainly would be in dangerous company.

If the local antiaircraft defenses are very elaborate, the danger to the hospital may be greater than if there were no protection at all. In the face of heavy fire, the bombers will not come low enough to deliver their missiles with accuracy at their military targets, but are more likely to unload promiscuously at safer altitudes. The dispersion will be greater, and innocent neighbors are more likely to be hit.

The importance of the blackout appears to be dwindling rapidly. Methods of circumventing it have been developed, and its protective value is small. The idea is spreading that a dazzling array of searchlights is more disturbing to the bombers and gives greater protection than the blackout.

No adequate means is known of protecting a

hospital from the effects of a direct hit by a large aerial bomb. The most that one can hope to accomplish is to reduce the damage to a minimum and to be able to continue functioning as a hospital. On the civil organization of the community rests the burden of getting the injured to the hospital. The responsibility of being prepared to care for the patients, even under the most adverse conditions, rests on the hospital boards and executives. They should give special attention to these details in their organization:

1. Maintenance of utilities such as power, light, water, gas, sewerage and telephone.
2. Control of fires and structural damage.
3. Casualty service: first aid, major surgery and care of gassed persons.
4. Protection of food supplies.
5. Maintaining equipment and supplies.
6. Evacuation of those able to leave the hospital.

One hesitates to go into further detail at this time because it is understood that the Office of Civilian Defense is about ready to issue a plan for hospital organization in emergency. It is important that all hospitals should adopt this standard plan in their preparedness work.

Experience of others indicates that each 1,000 air raid casualties will average 300 killed, 100 walking and 600 seriously enough injured to be retained in the hospital. The number of slightly injured is very small, and the injuries of an average air raid patient require seven or eight times as much dressing material as the ordinary injury of a patient in civil life in peace times.

The principal types of casualties will be:

1. Burns.
2. Penetrating, perforating and lacerated wounds.
3. Crushing injuries from collapsing buildings.
4. Fractures, simple and compound.
5. Wounds of special parts such as the head, face, jaw, chest and abdomen, for the care of which special teams should be organized, trained and equipped.
6. Shock, primary and secondary.
7. Hemorrhage.
8. Neuroses.
9. Gas.

It would be impossible to equip all the aid stations with all the different materials that the various physicians would use in dressings and treatments. As soon as the personnel of the aid stations is chosen, they should therefore, get together and agree on standard methods of treating such injuries as burns, wounds, fractures and shock and also on uniform methods of transfusion and intravenous injection. This agreement will aid greatly in avoiding confusion when the emergency arrives.

CONCLUSIONS

An old darky was once asked how he had managed to reach such an advanced age. He replied that he thought it was because he had learned to cooperate with the inevitable. The time is now upon those of us who are administrators of hospitals when we must learn to cooperate with the inevitable if we are to retain control of our institutions. If, instead of trying to push back the car of Juggernaut, we climb aboard and try to gain the driver's seat, we may accomplish real good. We may direct into safe and sane channels the public opinion that demands a change in the hospital system without having a clear idea of what the change should be, or what is the goal.

This period of emergency does not appear to be a suitable time for extensive additions to hospital buildings, unless the means to maintain the structures after the emergency are definitely in sight. Increased taxes and the uncertainties of the future are going to make it much more difficult to obtain funds. The Surgeon General of the Navy in a statement before a congressional committee, took the very laudable stand that only temporary buildings of low cost should be erected to accommodate the temporary expansion, so that there would be no intolerable burden of maintaining unused buildings after the emergency.

It is safe to predict that one result of the emergency will be a more closely knit system of hospitals in the United States, with the government exerting more and more control over them. There will be more standardized methods of hospital administration and accounting. One of the first steps will be financial aid by the government to hospitals in rural areas and small towns. The large foundations, which give aid to colleges and hospitals, do not fail to exert a considerable influence in the management of the institutions which they aid. It is not likely that the government will be outdone in this respect.

We are now planning for war. Soon we must plan for peace. Never again will we see the free and easy, individualistic, competitive management that now is characteristic of our hospitals. There will be more cooperation, more government control. Many old time prejudices against outside interference with our methods will be broken down. All during the emergency we will be learning lessons, broadening our point of view and recognizing the value of working together. We must neither gloss over nor forget these lessons, for we can never revert to the old ways.

Labor difficulties in hospitals will increase.

If we are to hold our best and most reliable employees, we must match the ever rising wages and the improved living conditions of industry. The turnover will be more rapid, and we will probably have to be contented with a lower grade of worker than hospitals have been able to attract in the past. Hospitals must continue to foster good will, good publicity and education of the public on the importance of the community hospital.

Every smart farmer knows that he can grow healthier chickens if he throws the feed among the litter, where they have to scratch for it, instead of handing it to them on a silver platter. Many hospital administrators are going to have to do some serious scratching to keep their hospitals alive through the changing years which are ahead. Those that do survive, and are able to adjust themselves, will be stronger and more vigorous because of the experience.

AMINOPHYLLINE IN CHEYNE-STOKES RESPIRATION

REPORT OF A CASE IN CORONARY DISEASE

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AND

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During the course of the treatment of progressive coronary disease there often arises a critical period wherein the patient is unable to sleep, either due to the fact that he has exhausted the physician's armamentarium, or because he may be kept awake by cyclic breathing. The latter was true in the case presented.

REPORT OF CASE

A. B., a man aged 55, was first examined on Dec. 26, 1939, because of severe pain in the chest radiating down the left arm and brought on by slight exertion. His blood pressure was 230 cystolic and 130 diastolic; the pulse rate was 120. An electrocardiogram revealed a regular sinus rhythm with a rate of 64, a left bundle branch block and a mixed type of coronary pattern indicating an anterior posterior coronary occlusion. There was a depressed ST segment with inversion of the T wave in lead 1, an elevated ST segment with a depressed T wave in leads 2 and 3, and an elevated ST segment with an upright T wave in lead 4F. This tracing was compared with one made by the patient's physician in New York on Dec. 7, 1939, which "showed a left bundle branch block with a ventricular rate of 120 and at that time T2 and T3 were upright and T4F inverted." This physician had also seen the patient in 1937, at which time he had severe decompensation. During the five months preceding our examination his blood pressure had gradually risen from 140 systolic and 80 diastolic to 180 systolic and 110 diastolic.

On December 27 at 3:30 a. m. he was seized with severe precordial pain which radiated down both arms. The skin was cold and moist. The blood pressure was 120 systolic and 78 diastolic; the pulse rate was 76. The left border of the heart extended to the anterior axillary line on that side. There was a systolic murmur over the mitral area. He was given the usual treatment, complete bed rest and opiates, but after one week gallop rhythm developed. The blood pressure always remained in the neighborhood of from 120 to 140 systolic and 80 diastolic, and the pulse rate was around 120. In an electrocardiogram made on Jan. 15, 1940 the T waves in the limb leads were still inverted, but small; the T wave in the chest lead was still upright, but small. There was an occasional extra systole.

We were able to keep the patient fairly well under sedation by administering dilaudid 1/64 Gr., pantopon 1/3 Gr. and luminal 3/4 Gr. every four hours. Cheyne-Stokes respiration was characteristic; in fact, his wife commented that she had noticed the occasional pause in his breathing during the past four years. This condition remained unchanged until January 19 when a psychosis of persecution developed. He fought sleep, believing that he would not awaken again. At 12:30 a. m. on that date he was given dilaudid 1/64 Gr., and this dose was repeated five times during the next twelve hours. He would sleep from ten to thirty minutes and awaken following a long pause in respiration. The respiratory rate varied from about 24 to 28. Sodium bromide 30 Gr. and chlorol hydrate 10 Gr. were given by rectum at 9 p. m. At 3:30 a. m. on January 20 the dose of bromide and chlorol hydrate was again repeated. The patient did not sleep during the night. At 10 a. m. he was given paraldehyde 6 drachms. He slept in short naps. At 4:30 p. m. he was given cyclopropane; at 6:45 p. m. nembutal 3 Gr. by rectum, which was expelled; at 8:30 p. m. sodium luminal 2 Gr. hypodermically. Nembutal 3 Gr. was again given by rectum at 9 p. m. and was partially expelled. At 11:45 p. m. morphine sulfate 1/4 Gr. was given hypodermically.

During the whole interim of forty-eight hours the patient only slept at intervals for periods lasting from ten to thirty minutes. Every time he would doze, the apnea followed by the labored breathing of the Cheyne-Stokes respiration phase would awaken him. As some improvement in respiration had for a short time followed the administration of 10 cc. (3 3/4 grains) of aminophylline intravenously, it was decided to give a larger dose. Thirty cc. (11 1/4 grains) was given at 12:10 a. m. on January 21. The Cheyne-Stokes respiration disappeared immediately, and the patient fell asleep for thirty minutes. The pulse was of better quality. At 1 a. m. 20 cc. (7 1/2 grains) of aminophylline and 30 cc. of 50 per cent glucose were given intravenously. Pantopon 1/3 Gr. hypodermically was also given. The patient slept until 8:45 a. m. The dose of pantopon 1/3 Gr. was repeated twice during the day with good sedative response. At 8 p. m. on January 22, 50 cc. (18 3/4 grains) of aminophylline was given intravenously with pantopon 1/3 Gr. hypodermically. Morphine sulfate 1/4 Gr. was given at 9 p. m. and pantopon 1/3 Gr. at 9:30 p. m. The patient again had a restful sleep.

We continued to repeat the large dose of aminophylline at intervals of from eight to twelve hours and to follow it with an opiate until the case was terminated. It seemed to us that the Cheyne-Stokes respiration would awaken the patient even after large doses of opiates had been administered unless aminophylline was given.

The patient became weaker in spite of continuous oxygen therapy during the entire period of hospitalization. He died of left ventricular failure on January 26.

This case demonstrates the difficulty of producing a sedative effect in a patient under the conditions described. Aminophylline in large doses will correct Cheyne-Stokes respiration, thereby protecting the sedation of the patient.

Read before the Miami Heart Club, Miami Beach, November 19, 1940.

BRIEF SUMMARY OF LITERATURE

Vogl in 1927 first used aminophylline, a double salt composed of theophylline, 75 per cent and ethylenediamine, 25 per cent in the treatment of cyclic breathing.[1] English investigators[2] claimed that ethylenediamine is the important component in aminophylline, and another group[3] reported that the theophylline constituent is the active component. The latter group demonstrated that other amines in combination with theophylline, such as monoethanolamine, isopropanolamine and theophylline methylglucamine, will abolish cyclic breathing. Whichever component is the factor, the consensus is that the action has a widespread effect on the central nervous system. Greene, Paul and Feller[4] demonstrated a fall in the intrathecal and venous pressure by measuring the spinal fluid and the venous pressure simultaneously after the administration of 0.24 to 0.48 Gm. of aminophylline. They also noticed an increase in the vital capacity of patients suffering with bronchial asthma. They could not demonstrate a change in cardiac rate nor in systolic or diastolic pressure as shown by the electrocardiogram.

There has been no satisfactory explanation as to the nature of the effect of aminophylline. Schmidt[5] recently reviewed the functions of the carotid and aortic bodies. Consideration of their functions raises the question as to whether the stimulation to the respiratory and vasomotor centers can be explained on this basis. In brief, it is thought that the carotid and aortic bodies have specialized functions due to the presence of sensitive chemoreceptors, which respond to changes in the chemical composition of the arterial blood. Impulses are carried to the central nervous system by way of the glossopharyngeal and vagus nerves. These chemoreceptors can be stimulated by anoxemia, asphyxia, increased carbon dioxide tension, increased hydrogen ion concentration, and a variety of drugs including cyanide, sulfide, nicotine, lobeline, coniine and choline. Perhaps the prolonged increase in carbon dioxide tension of the blood in cyclic breathing is no longer a sufficient stimulus to these chemoreceptors, making it necessary to use a chemical such as theophylline ethylenediamine.

In the literature on coronary diseases, Askonozy in 1895 was the first to call attention to the xanthines in angina pectoris. In 1902 Breuer declared that discovery of the xanthines was the most noteworthy achievement of the decade and in 1929 Gilbert and Kerr[6] affirmed his statement. In attempting to show that xanthines (theobromine and aminophylline) have no specific action in the routine treatment of cardiac pain, Gold, Kwit and Otto[7] studied 100 ambulatory patients with angina pectoris. These patients were given from 15 to 60 grains of theobromine daily and from 9 to 12 grains of aminophylline. Recently, however, Levy, Bruenn and Williams[8] induced oxygen want in 10 patients subject to attacks of cardiac pain by making them breathe 10 per cent oxygen and 90 per cent nitrogen. They discovered that aminophylline injected intravenously in doses of 0.48 Gm. caused a prolongation of 63 per cent in the time of appearance of pain.

Regarding experimental coronary infarction reports conflict. Fowler, Hurevitz and Smith[9] noted the disappearance of the cyanotic area of an infarct, produced by ligating the coronary arteries in dogs, after the intravenous injection of aminophylline. Gold, Travell and Modell[10] ligated the coronary arteries in cats and after administering vigorous treatment for two or three weeks concluded that there was no influence on the course of infarction. The fact, however, that the latter group used the intramuscular method of therapy, except that the first dose after the operation was given intravenously, may account for the difference in the results obtained by them and by Fowler, Hurevitz and Smith,[9] who used the intravenous method of administration. The favorable report of Levy and his associates as compared with that of Gold and his coworkers on cardiac pain may be due to the same reason, because they also administered aminophylline intravenously.

Aminophylline in doses of 7 1/2 grains with 50 cc. of 50 per cent glucose given intravenously has received acclaim in cases of status asthmaticus. Its effect is said to be directly on the smooth muscle of the bronchi, causing it to relax.

Carr[11] recently reported the effects of aminophylline on 22 asthmatic patients who were refractory to adrenalin. The dose was 0.48 Gm. or 2 cc. given intravenously. In half of these patients relief was evident in from twenty to thirty minutes. In none was it necessary to repeat the injection within a period of less than two hours.

SUMMARY

1. Large doses of aminophylline given intravenously will correct Cheyne-Stokes respiration for as long as eight hours.

2. There has been no satisfactory explanation for this effect on the respiratory center.

Perhaps the chemoreceptors of the carotid and aortic bodies are stimulated by the presence of aminophylline in the arterial blood and in turn stimulate the respiratory and vasomotor centers by way of the glosopharyngeal and vagus nerves.

3. Aminophylline lowers the intrathecal and intravenous pressure.

4. When given intravenously aminophylline delays the appearance of cardiac pain incident to oxygen want induced by making patients breathe 10 per cent oxygen and 90 per cent nitrogen.

5. Aminophylline given in tablet form has a questionable effect on cardiac pain.

6. In bronchial asthma, aminophylline in doses of 0.48 Gm. administered intravenously gives some patients instant relief and others relief within thirty-five minutes. There is an increase in vital capacity, which is probably due to the relaxation of the smooth muscle of the bronchi.

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STERILITY IN MAN

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A childless marriage may, of course, be the fault of either the husband or the wife, or of both. Until the last quarter of a century, however, the wife has customarily borne the blame for a fruitless mating, and no serious studies of male fertility were undertaken. This lack of interest in male fertility was due to many factors, perhaps the greatest of which was the misconception that potency is ample evidence of fertility. Potency, or ability to have successful intercourse, may have little to do with sterility, as a very potent person may be quite sterile.

It is generally agreed that the incidence of sterile marriages is about 10 per cent and that the man is about as often to blame as the woman. In large series of sterile unions that have been studied by various writers the percentage in which the man was found at fault varies from 45 to 65 per cent. There is about a fifty-fifty chance in any given case that it is the man who is deficient. If this observation has any significance at all, it certainly means that any study of a sterile union should begin with the male, since he is by far the easier to evaluate.

The purpose of a study of sterility is not only to detect absolute sterility, but also to arrive at an estimate of the relative fertility of each partner with each considered separately and the two considered together as a marital unit. There is a difference in the grade of fertility for each marriage, as well as for the individual partner. This fact is evident in cases in which one person proves fruitful to one mate, yet barren to another. It becomes the duty of the physician, therefore, to detect and overcome the causes of absolute sterility or to stimulate the existing fertility to such a level that conception may occur.

A great many conditions may be the cause of male sterility. It is easiest to consider cases of sterility as being true or false, true sterility de-

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scribing cases in which no spermatozoa are produced and false sterility referring to cases in which production is normal, but delivery of the sperm to the outside is interfered with. Thus these cases are essentially either obstructive or non-obstructive, the latter referring to cases of defective spermatogenesis.

True azoospermia, or absence of spermatozoa, is a physiologic condition occurring in boys and old men, or after sexual exhaustion. It is a pathologic condition, however, when it is associated with undescended testicles, testicular atrophy, whether congenital or acquired, or the various endocrinopathies. Acquired testicular atrophy may be the result of trauma, roentgen therapy, infections, intoxications, or tumors. The matastatic orchitis occurring in association with mumps is a well known cause of testicular atrophy resulting in sterility, and the dangers from overexposure to roentgen rays are commonly recognized.

Sterility due to endocrine imbalance is obvious and easy to diagnose in such extreme conditions as gigantism, acromegaly, dwarfism of pituitary origin, Simmond's disease (pituitary cachexia), cretinism, Addison's disease and adrenal cortical tumors. These conditions are not important, because sterility is not the chief concern regarding them, and the diagnosis of a major endocrine disaster is obvious. It is the subclinical type of endocrine imbalance that is easily missed; and the patients in cases of this type often complain only of sterility. A careful history and a thorough physical examination with necessary laboratory tests, such as the determination of the basal metabolic rate, will uncover the endocrine background of most of these cases.

In some instances, remote devitalizing factors including sexual exhaustion, prolonged emotional stress, physical fatigue, blood dyscrasias and certain constitutional diseases such as the prolonged fevers, syphilis, tuberculosis and diabetes, may cause temporary cessation of spermatogenesis in testes that are structurally normal.

False azoospermia, in which the production of sperm is normal, but sterility is due to defective transmission of the sperm to the outside, presents a different problem. Obstructive sterility is usually dependent upon closure of the epididymis, vas deferens or the ejaculatory duct, owing to inflammation, and gonorrhea is by far the most frequent cause of this type of inflammation. Gonorrhea accounts for at least half of the cases of sterility in both men and women. Partial obstruction is productive of oligospermia in many cases, as shown by a decrease of spermatozoa in the count. Normal spermatozoa are produced by the testicular cells, but occlusion, or partial occlusion, of the seminiferous pathways by congestion or stricture, prevents their transmission to the urethra. In order for sterility to be complete, such blockage must be bilateral.

Normal spermatozoa may be injured in their passage through the seminal tract by the presence of infection anywhere along the way. Infection of the prostatic or seminal vesicles is the most frequent cause of this sort of injury.

In studying a given case of male sterility, the history is of more importance for prognosis and in devising treatment than for diagnosis. Functional disturbances may be revealed with reluctance by the patient. The importance of a history of mumps, gonorrhea, syphilis, or testicular trauma is, however, obvious.

The physical examination will reveal the objective causes of sterility, such as arrested secondary sexual characteristics suggesting an endocrine disturbance, or anomalies of development such as hypospadias or undescended testicles.

The most important single examination, however, is that of the semen. Finding normal sperm cells in the fluid obtained by massage of the prostate and seminal vesicles is a fairly accurate way of establishing the normalcy of the male patient. This practical test often fails, however, as sperm cells may not be present normally; in consequence, the examination of an ejaculated specimen is much more dependable and accurate. The specimen is perfectly satisfactory if collected in a clean, powder-free condom and examined within an hour or so. The condom is tied, placed in an envelope and carried in the patient's inside pocket for warmth until delivered for examination. In some cases it is feasible to have the patient collect a specimen by masturbation in a clean, wide-mouth jar in the physician's office. Huhner's method of collecting specimens from the vagina and cervix of the woman at varying intervals after intercourse is best carried out by the gynecologist.

Examination of the semen in any given case may reveal one of the following conditions:

1. That no semen is ejaculated (aspermia)
2. That ejaculation takes place but the semen is entirely lacking in sperm cells (azoospermia), or
3. Merely deficient in the number of spermatozoa (oligospermia)

4. That the sperm cells are dead (necrospermia)
5. That the semen contains pus or blood, or finally,
6. That the semen appears normal.

A routine analysis of semen is simple and includes these details:

1. The average volume is 3 or 4 cc.
2. The hydrogen ion concentration varies from 7.7 to 8.5. Necrospermia is occasionally associated with an acid hydrogen ion concentration.
3. A drop of semen is placed on a slide and the number of dead sperm cells estimated. Normal sperm cells are most tenacious of life, and a slide properly prepared to prevent evaporation will show motility of these cells for many hours.
4. The number of spermatozoa is determined by the use of the usual equipment for counting blood cells. A solution of sodium bicarbonate and phenol is used as the diluting fluid to destroy motility. The normal count is from 100 million to 150 million per cubic centimeter with a total count of from 400 to 500 million in an ejaculated specimen.
5. A smear stained with Gram's solution is next prepared and examined for abnormal forms. If more than 20 per cent of the forms are abnormal, the condition is pathologic. The technic is the same as for a differential white cell count.

Having determined that sperm cells are absent, the next step is to determine whether their absence is due to faults of production in the testicles or to some obstruction to the transmission of the sperm to the outside. If the testicles are grossly normal as to size, shape and consistency, they are almost invariably physiologically normal. Confirmation can, however, be made by needle puncture and aspiration of the testicle and globus major. If the aspirated specimen contains sperm cells and the ejaculated specimen contains none, obviously the sterility is obstructive in type. In many cases of obstructive sterility the condition disappears after infection of a prostatic or seminal vesicle is cured, as many of the occlusions are temporary and patency of the ducts is reestablished with subsidence of the infection. In a great many of these cases the infection is nonvenereal in type.

True loss of production of spermatozoa is usually a hopeless state. Testicular transplants and grafts invariably fail. This condition is often associated with various endocrine disturbances and also with secondary testicular atrophy, such as follows mumps, trauma, or maldescent of the testes. Decreased spermatogenesis due to constitutional depression usually is overcome with improvement in general health. Cases of relative or absolute sterility are not uncommon following long illness, overwork or malnutrition, and in such cases the prognosis is good. The prognosis in cases of sterility due to endocrine disorders has improved in recent years, and better results may be expected with increasing knowledge and the purification of gonadotropic hormones. A small percentage of these cases respond now to treatment with the various gonadotropic hormones, such as antuitrin S from the urine of pregnancy and the gonadotropic hormone of pregnant mare's serum. These are pituitary hormones which tend to stimulate spermatogenesis by their action on the testicle.

The true male sex hormone testosterone, which is available as testosterone propionate under various trade names, depresses spermatogenesis rather than stimulates it. This fact reaffirms the old dictum that no organ is stimulated by its own secretion. Hypothyroid states must be thought of and properly managed. Vitamin deficiencies and malnutrition usually respond to adequate diet.

Sterility due to occlusion of the ejaculatory ducts or vas deferens from congestion, without true stricture, usually disappears with the subsidence of the infection and the reestablishment of the patency of the ducts. Cases of this type respond to prostatic massage or to catheterization of the ejaculatory ducts.

True stricture of the vas deferens usually occurs at either end of that structure, but is most commonly located where the vas joins the distal part of the epididymis. Organic stricture about this portion of the epididymis may be relieved by an epididymovasostomy. This procedure consists of anastomosis of the head of the epididymis to the vas above the stricture, thus shunting the spermatic flow around the contracted area. This operation was first performed by Dr. Edward Martin of Philadelphia in 1902. Hagner's modification of this operation is the usual procedure used now. Hagner claimed a cure in 63 per cent of his cases, but most surgeons are less fortunate. Finally, in the vast majority of cases of male sterility an accurate diagnosis of the type of sterility can be made, and in a great many of these cases the patient is benefited by proper treatment. Certainly cases of this kind are worth detailed study as they offer the promise that some good may come of it.

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HOMER L. PEARSON, M.D., 1934.....*Miami*
HERBERT L. BRYANS, M.D., 1935.....*Pensacola*
ORION O. FEASTER, M.D., 1936.....*St. Petersburg*
EDWARD JELKS, M.D., 1937.....*Jacksonville*
W. HENRY SPIERS, M.D., 1938.....*Orlando*
LEIGH F. ROBINSON, M.D., 1939.....*Ft. Lauderdale*
WALTER C. JONES, M.D., 1941.....*Miami*

The Journal of The Florida Medical Association

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ANNUAL CONVENTION

The Palm Beach County Medical Society entertained royally the doctors and guests who attended the Sixty-Ninth Annual Convention of the Association. Owing to present conditions, a great many were surprised to learn that the attendance was approximately 775. The official figures and a complete writeup of the annual convention, proceedings of the House of Delegates, annual reports of officers and committee chairmen, together with Echoes of the Convention, will appear in an early issue of the Journal.

In this Journal may be found the names of the newly elected officers, President Osincup's new assignments to the Association's standing committees, and the editorial staff. There are now four medical districts and eight councilor districts, as is shown by the arrangement of the new committee appointees.

WORDS

Medical histories are admittedly of great value in the diagnosis and treatment of disease. It nevertheless becomes increasingly difficult to obtain a clear concise history for reasons largely beyond the physician's control. There is, for example, the hindrance growing out of the misconception and half knowledge that patients get from so-called medical articles for the laity; too, there are the difficulties arising from the layman's misinterpretation of articles descriptive of disease and its treatment that are in themselves scientifically correct.

The physician, however, not infrequently thwarts the objective of obtaining a correct history by the loose use of words. While it is true that patients freely exercise the privilege of misusing, misquoting and misunderstanding his terms, he in turn occasionally employs descriptive language so vague and inappropriate that the actual meaning is obscured both to him and to the intelligent patient as well as to the patient who is often ignorant and opinionated.

Too many patients expect a whole medical education from one visit to the physician. In consequence, the busy practitioner is prone to put them off with expressions not entirely applicable. He feels, and with justice, that diagnosis and treatment should be left to him, but he fails to realize that patients of this type delight to tell the world what he said, ofttimes to his embarrassment in the future.

The chief trouble maker in this particular is the marginal M. D., who, under the cloak of a medical degree frequently obtained from one of the best medical schools, descends for purely financial reasons to the level of the worst charlatan or quack. He lacks even the veil of ignorance to excuse his varied and unscrupulous methods. Illustrative of thousands of examples is the advice of Dr. So and So to Mrs. Blank: "Your white cells outnumber your red cells; so you must have my special injections." This without even the formality of a blood count! His differential diagnosis between a chancre and a chancroid also has a cash basis. If the patient has $150, the lesion is diagnosed as syphilis with the prescribed treatment requiring a long course of "shots;" if not, it becomes a chancroid requiring only the application of a little calomel ointment. Likewise traceable to the medical racketeer are such terms as "too much acid," "acid bumps," "acid headache," "bordering on Bright's disease" and "your blood is thin."

Medical ethics was not designed to help such a practitioner, be he an M. D. associated with the county medical society, or simply an advertising quack. Persistent and hard hitting methods must be employed to wipe out this type of physician. Proof of charlatanism for legal purposes is difficult if not impossible to obtain. Uncovering it is the problem of the profession. If the unethical practitioner remains in a community, he and his methods soon become known to the local honest physicians, who should expose him to the patient in emphatic terms every time occasion offers. Such a campaign will hurt him a great deal and will tend to throw into one class or the other the physician who occasionally indulges in racketeering practices.

Concerted effort of this sort will also impose upon the ethical practitioner the necessity of

guarding his speech by using only those terms actually applicable to the conditions that arise. Once that habit is established, the temptation to use loose phrases, usually yielded to in moments of fatigue or disgust merely to satisfy the patient, will be readily resisted. It is certainly better to tell a patient nothing than, for example, to reiterate the oft repeated expression: "Oh, you just caught a fresh cold on top of the one you had."

Naturally this avenue of approach to a clear concise medical history will be reflected in actual practice only after the expenditure of much time, effort and patience. If persisted in, it should, however, have two highly desirable results. It should help to draw a sharp line of distinction between the honest physician and the relatively few dishonest practitioners of the type described, thus tending to make the racketeer watch his step or stop his thievery. Also, it should give one's medical colleagues a better chance to obtain a clear reliable medical history.

The results should be readily and gratifyingly apparent. The "cold" will thereby return to its original meaning of an acute coryza and thus spare the physician the necessity of guessing at the medical significance of such complaints as "a cold in the back" and "spitting up a lot of cold." The word pleurisy, its true descriptive value of great worth at a later time in the diagnosis of pulmonary tuberculosis, will again come into its own and no longer be used to describe a muscular pain anywhere from the apexes of the lungs to the region of the umbilicus.

Acidosis will also come to have a real meaning. After a long time such expressions as "acid all through my system," "acid bumps" and "acid taste in my mouth" will cease to plague the physician. "A spot on my lung" will then have to be discarded in favor of a suitable expression having definite meaning. Méniére's disease will likewise once more designate the one acute syndrome described by Méniére and will no longer masquerade as the pseudonym for every degree of lightheadedness and vertigo arising from innumerable causes, which include worshiping too freely at the shrine of Bacchus.

It is well to bear in mind that what a physician says or does is quoted with surprising frequency to settle almost any kind of an argument that may arise in ordinary conversation. While he cannot hope to stop being misquoted to some extent, nevertheless by the exactness of his language he can make a worth while contribution toward stopping the loose use of words and thus render a constructive service to his patients, to his colleagues and, broadly speaking, to the general public.

MARRIAGES AND DEATHS

MARRIAGES

Dr. Earl C. MacCordy and Miss Regina Barbara Melber of St. Petersburg were married on March 4.

DEATHS

Dr. Jack Halton of Sarasota died in St. Petersburg on February 26.

STATE NEWS ITEMS

Dr. Kenneth Phillips of Miami, secretary of the Southeastern Section of the American Congress of Physical Therapy, announces that the annual meeting, scheduled for Memphis in May, has been postponed due to wartime conditions. The officers request that physicians interested will attend the new Section on Physical Medicine of the Southern Medical Association, now scheduled to meet in Richmond in November.

The Annual Conference of the Florida Tuberculosis and Health Association will be held at the Tampa Terrace Hotel, Tampa, May 18 and 19. The program will include pertinent subjects on tuberculosis important and timely in a world at war. The association will bring to the conference a nationally known speaker for the scientific sessions. Details will be announced later. Florida physicians are cordially invited to attend the sessions.

Dr. Frederick J. Waas of Jacksonville was elected vice president of the Southeastern Surgical Congress at its meeting held in Atlanta, March 9, 10 and 11. In addition to Dr. Waas, the following Florida doctors attended the meeting: J. L. Hargrove, Bartow; T. A. Snow, Gainesville; J. W. Sapp, Havana; Gerry R. Holden, Jacksonville; H. G. Holland, Leesburg; C. D. Whitaker, Marianna; A. J. Harness, Miami; Eugene G. Peek, Ocala; F. D. Gray, Orlando; A. H. Lisenby, Panama City; S. G. Kennedy, Pensacola; A. Lamar Matthews, Sarasota; J. H. Pound, Tallahassee; and H. G. Cole, Tampa.

(Continued on page 498)

MEDICAL POSTGRADUATE COURSE

FLORIDA'S SHORT COURSE COMMENDED

The Annual Graduate Short Course for Doctors of Medicine in Florida received favorable mention in a recent issue (Feb. 14) of the Journal of the American Medical Association in an article by Dr. Paul B. Cornely, "Opportunities for Postgraduate Study for Negro Practicing Physicians in the South." Doctor Cornely stated that only 12 of the 17 Southern states have developed formal postgraduate programs for Negro physicians and that most of these are sponsored by white agencies. He continued:

Thus it is seen that white organizations, particularly the medical schools and voluntary health agencies, have been more active in this field of endeavor than Negro groups. Of particular significance is the fact that four Southern state medical societies, namely, Arkansas, Florida, Louisiana and Tennessee, have opened certain of their postgraduate facilities to Negro physicians. The attitude of the Florida Medical Association, Inc., is commendatory and deserves a place of prominence. Up to 1940, Negro physicians were not admitted to the one week postgraduate seminar held annually by the society since 1933. In 1940 the last two days of the seminar were opened to Negro physicians and in 1941 the whole course was made available to all duly licensed Negro physicians on the same basis as white physicians. This arrangement has proved satisfactory and should certainly be given a trial by other state medical societies.

In his summarizing comment, Doctor Cornely further remarked:

The examples which have been set by the state medical association of Florida and those of Arkansas, Louisiana and Tennessee should gradually cause other Southern state and county medical societies to open some of their postgraduate activities to Negro physicians. Just as the Florida Medical Association, Inc., gradually opened its postgraduate seminar to Negro physicians in the state, so other associations could experiment in this direction.

CONGRATULATIONS!

The following letter has been received by the Medical Postgraduate Course Committee:

Chicago, March 12, 1942.

Dr. T. Z. Cason, Chairman,
Medical Postgraduate Course Committee,
Florida Medical Association,
Jacksonville, Florida

My dear Dr. Cason:

May I, as secretary of the Council on Medical Education and Hospitals of the American Medical Association, express to you and to the Florida Medical Association greetings and congratulations on the occasion of the tenth anniversary of the Annual Graduate Short Course for Doctors of Medicine in Florida.

Some one has said that the measure of a man is his conduct when he is free to do as he pleases. The successful conduct of such annual courses, invoking as they do no compulsion for attendance, for a period of ten years is in itself a fine tribute to the practicing physicians of Florida and to your association. This is especially true because of the fact that your state has no medical school and thus does not have any organized groups whose chief responsibility is that of teaching.

The success of continuation study programs for practicing physicians is dependent largely on the interest and activity of component medical societies and the Council has found that with few exceptions the best attended and, in the opinion of many physicians, the most useful educational projects are those actively directed by well organized medical societies.

The Council's recent study of continuation courses for the practicing physician showed that only twenty-six of fifty statewide courses were of five or more days duration. Your association can take pride in the fact that you are listed among this group of twenty-six.

May I also congratulate you on the work that is being done in your state in connection with the graduate education of the Negro physician as reported by Dr. Paul B. Cornely in a recent number of The Journal of the American Medical Association.

At this particular time when greatly added responsibilities are being thrust upon the practicing physicians of this country your annual course takes on added importance and should be especially beneficial and stimulating to all who attend.

With every good wish for a successful anniversary session, I am

Sincerely yours,
H. G. Weiskotten, *Secretary.*

SHORT COURSE SCHEDULED FOR JUNE 22-27

The George Washington Hotel in Jacksonville has again been chosen for the Graduate Short Course for Doctors of Medicine in Florida, which will be held June 22-27, inclusive. The fact that this hotel is fully air-conditioned insures the comfort of those attending the session.

SHORT COURSE FACULTY

Dr. Nicholson J. Eastman, Professor of Obstetrics at Johns Hopkins University School of Medicine, is the only member of last year's faculty who will return this year. He will again present the course in Obstetrics, which will come the last three days of the session, June 25, 26, and 27. Doctor Eastman's presentation of these lectures last year will be remembered with pleasure.

The course in Surgery will be given by Dr. Alton Ochsner, Professor of Surgery, Tulane University. Doctor Ochsner will be the first faculty member from Tulane in a number of years.

Dr. Soma Weiss, who, prior to his lamented death on January 31, was professor of Medicine at Harvard University School of Medicine, had promised to present the lectures in Medicine this June. After he died the Committee requested that someone from his staff be sent to give the course, and Doctor Weiss' widow suggested Dr. Robert Wilkins who had been closely associated with Doctor Weiss for many years and who is assistant Professor of Medicine at Harvard University Medical School. Doctor Wilkins has kindly accepted the assignment.

The instructors in Gynecology, Venereal Diseases, and Pediatrics will be announced later.

Dr. Terry Bird, Director of the State Crippled Children's Commission, is now at the University of North Carolina, Chapel Hill, to complete his Master's Degree in Public Health. He will receive his degree in June of this year.

Dr. Louis M. Orr of Orlando was named president of the Southeastern Section of the American Urological Association at its annual meeting held in Chattanooga, March 19 to 21. Dr. Robert B. McIver of Jacksonville was appointed a member of the Executive Committee. Other Florida doctors attending the meeting were: Russell B. Carson, Ft. Lauderdale; B. F. Woolsey, Jacksonville; Clyde F. Bowie, Leesburg; James L. Estes and E. S. Gilmer, Tampa.

JACK HALTON

Dr. Jack Halton of Sarasota died at the Bay Pines Veterans Hospital, St. Petersburg, on February 26, at the age of 73.

Recipient of the American Legion community service award in 1932 in recognition of his work in the Legion's underprivileged child clinic, Dr. Halton had been closely identified with the activities of Sarasota Bay Post No. 30 and other local organizations until ill health interfered.

He was described as a man who "has rendered an invaluable service to this community in his work of treating and otherwise assisting underprivileged children," when he was presented with the Legion award, the second ever given in that city.

Dr. Halton was born in Lancashire, England, in March, 1868. At the age of 14 he entered the English navy as midshipman and he continued his service in that organization until 1890 when he came to the United States.

Dr. Halton received his medical training in the Miami Medical College, Cincinnati, from which he was graduated in 1895. He then practiced medicine in Cincinnati and Muncie, Ind., until 1904 when he came to Sarasota. For three years in addition to his practice, he conducted the Alton Sanitarium, owned by the late Col. John Hamilton Gillespie, and also was proprietor of the Belle Haven hotel. In August, 1917, Dr. Halton tendered his services to the medical corps of the United States army and was commissioned a captain. He also assisted in the organization of the United States Public Health Service in which he served at Greenville, S. C., until September, 1919.

He was a past commander of the Sarasota Legion post, vice commander of the state Legion and was a former city councilman and city physician.

Survivors include his widow, Mrs. Winifred L. Halton; one son, City Councilman Jack (Zip) Halton now stationed with the naval reserve at St. Petersburg; and three daughters, Mrs. Ed Roth of Sarasota, Miss Edith Halton of Tampa, and Mrs. Ned Roberts of Atlanta.

COMPONENT COUNTY SOCIETIES

BROWARD

The Broward County Medical Society, with a membership of 40, has paid 100 per cent of its state dues for 1942. Dr. Elbert McLaury of Hollywood is president, Dr. D. W. Harris of Ft. Lauderdale, vice president and Dr. O. C. Brown of Ft. Lauderdale, secretary and treasurer of the society.

DADE

Dr. Joseph H. Barach, head of the Falk Diabetic Clinic, Medical Center, University of Pittsburgh, was the principal speaker at the meeting of the Dade County Medical Society held on April 1. He discussed "Diabetes Mellitus, the Most Scientifically Treated of all Medical Diseases," and illustrated his lecture with films and slides.

ESCAMBIA

At a meeting of the Escambia County Medical Society held on March 10, two prominent physicians were principal speakers. Lt. Comdr. R. S. Crisbell, MC., U.S.N.R., who is on leave of absence as professor of neuropsychiatry at Duke University School of Medicine, spoke on the recent advances in the neuromedical field. Dr. Willard Bartlett, St. Louis, associate professor of surgery at Washington University, discussed "A Concept of Thyrotoxicosis."

JACKSON

The Jackson County Medical Society has paid its entire assessment for 1942. Officers of this society are: Dr. W. R. Wandeck of Marianna, president; Dr. C. H. Ryals of Grand Ridge, vice president, and Dr. R. N. Joyner of Marianna, secretary and treasurer.

LEON-GADSDEN-LIBERTY-WAKULLA-JEFFERSON

In honor of Dr. Morris Fishbein, editor of the Journal of the American Medical Association, the Leon-Gadsden-Liberty-Wakulla-Jefferson County Medical Society held a dinner at the Floridan Hotel on the evening of March 11. Dr. Fishbein spoke on "American Medicine and the War." The following evening, he addressed the hygiene students of the Florida State College for Women on "Medicine and Defense."

MADISON-SUWANNEE

The Madison-Suwannee County Medical Society has paid 100 per cent of its dues for 1942. Dr. Eustace Long of Madison is president of the organization and Dr. E. D. Thorpe of Madison is secretary and treasurer.

PALM BEACH

Dr. Frank H. Lahey, president of the American Medical Association, was guest speaker at a meeting of the Palm Beach County Medical Society held on February 23.

Dr. Lahey, who also is directing chairman of the physicians' procurement and assignment service for the armed forces of the United States, devoted the first part of his talk to an explanation of the system that has been devised to obtain physicians for the Army, Navy and Public Health Services in the present emergency.

In the second half of his lecture, Dr. Lahey, who heads the Lahey Clinic in Boston, spoke on "Diagnosis and Surgical Treatment of Cancer."

PASCO-HERNANDO-CITRUS

Dr. and Mrs. P. J. Hudson of Crystal River entertained the members of the Pasco-Hernando-Citrus County Medical Society at their home on the evening of March 12, at a fish and oyster supper. The scientific meeting was held in the doctor's office. Present were Dr. Claude L. Carter, Inverness; Dr. W. Wardlaw Jones, Dade City; Dr. W. B. Moon, Crystal River; Dr. S. C. Harvard and Dr. G. R. Creekmore of Brooksville. Dr. Smith L. Turner of Williston was a guest of the society.

This society has paid 100 per cent of its dues for the current year. It is headed by the following officers: president, Dr. J. T. Bradshaw, San Antonio; vice president, Dr. C. L. Carter, Inverness; and secretary-treasurer, Dr. G. R. Creekmore of Brooksville.

PINELLAS

The monthly dinner meeting of the Pinellas County Medical Society was held on the evening of March 6. The scientific program consisted of two papers: "Rational Vitamin Therapy" by Dr. Lawrence Simcox and "Mineral Balance of the Body" by Dr. F. F. Kumm.

On March 20 the Society held a round table conference at the home of Drs. O. O. Feaster and Annette M. Feaster on the subject of cardiac disease. Dr. R. J. Needles acted as moderator.

The Pinellas County Medical Society is at present the largest unit of the Association having 100 per cent of membership dues paid for the current year.

POLK

Dr. Paul White, president of the National Heart Association, was principal speaker at a meeting of the Polk County Medical Society held at the Walesbilt Hotel, Lake Wales. Approximately 70 members and guests attended the meeting.

ST. LUCIE-OKEECHOBEE-INDIAN RIVER-MARTIN

The St. Lucie-Okeechobee-Indian River-Martin County Medical Society is 100 per cent paid for 1942. Officers of this group are: president, Dr. R. C. Boothe, Ft. Pierce; vice president, Dr. E. B. Hardee, Vero Beach; secretary and treasurer, Dr. A. M. Sample, Ft. Pierce.

SARASOTA

A joint meeting of the Sarasota and Manatee County Medical Societies was held on the evening of February 17. At this time Major W. E. McCormick, chairman of health and housing of the Sarasota County Defense Council, discussed the establishment of emergency first aid posts and casualty stations. Dr. L. W. Blake of Bradenton spoke on the Manatee county medical defense setup. Dr. Frederick Hammett, research director of the Lakenow Cancer Research Foundation, screened motion pictures of the work now going on in the foundation.

SEMINOLE

The Seminole County Medical Society stands 100 per cent paid for the current year. Heading this society are: Dr. Charles L. Park, Sanford, president; Dr. George H. Putnam, Sanford, vice president; and Dr. Orville L. Barks, Sanford, secretary-treasurer.

VOLUSIA

Dr. Harry Hausman of Daytona Beach was the principal speaker at a meeting of the Volusia County Medical Society held on March 10 at the Halifax Hospital. His subject was "Tuberculosis of the Kidney."

ABSTRACT DEPARTMENT

Members of the Florida Medical Association who have had articles published in out-of-state medical journals are requested to forward such journals or reprints to Box 1018, Jacksonville, for abstracting in this department.

IMPERFORATE HYMEN BEFORE THE MENARCHE WITH MUCOCOLPOS AND MUCOMETRIUM, BOWEN, FRED H., JACKSONVILLE, AM. J. OBST. & GYNEC. **42**:144-145 (JULY) 1941.

A Jewish girl, 12 years of age, complained of mild discomfort without pain in the right lower quadrant and midabdomen. Examination revealed a large mass in the right side of the abdomen, extending from the pelvis to the umbilicus. Between the labia there was a white spherical mass, more prominent on straining. An incision through the hymen resulted in the escape of two quarts of chylelike fluid. Examination of the cervix thirteen days after the patient was discharged revealed a slight mucoid secretion from the cervix.

The interesting feature of the case is its occurrence prior to the onset of menstruation and the author surmises that in some of the cases reported, in which from 500 to 1000 cc. of bloody fluid has been evacuated after only one or two menstrual months, the condition may be a mucocolpos and mucometrium of long standing.

THE CHEMOTHERAPY OF INFECTIOUS DIARRHEA WITH SULFATHIAZOLE, ANDERSON, E. V., PENSACOLA, J. PEDIAT. **18**:732-736 (JUNE) 1941.

The author presents a summary of results obtained by the use of sulfathiazole in both infectious and non-infectious diarrheas during 1940, and contrasts them with results of treatment in these conditions during the decade 1930-1939, before the advent of sulfathiazole. No death occurred during 1940 from either condition, whereas in the former decade 39 of 113 patients with infectious diarrhea and 15 of 111 with non-infectious diarrhea died. The author's statistics also seem to show a shorter period of morbidity and hospitalization when the drug is used.

The dosage was computed on the basis of from 1 to 1.5 grains per pound of body weight daily.

BUREAU OF PROFESSIONAL RELATIONS

University of Florida—School of Pharmacy

IRON THERAPY

Tests of relative efficiency of inorganic iron compounds in hypochromic anemia are misleading, since small differences can be readily compensated by the dosage. Fullerton[1] tested a number of iron compounds, making a comparison on the basis that a 1 per cent rise in hemoglobin level contains about 24 mg. of iron. The preparations studied gave practically the same improvement if effective doses were used.

The effective daily dosage (to utilize 30 mg. of iron), according to Fullerton,[1] would be 80 grains of iron and ammonium citrate, 6 grains of ferrous chloride, 25 grains of mass of ferrous carbonate (Blaud's pills), or 8 grains of ferrous sulfate. The difference in dosage corresponded to the difference in utilization.

It has been shown that gastric acidity favors preservation and even formation of ferrous iron and prevents formation of insoluble iron compounds. Covering ferrous sulfate tablets with an enteric coat would seem actually to lessen absorption of ferrous iron as most enteric coated tablets (theoretically) disintegrate in slightly alkaline media.

Iron, it is claimed, can only be utilized in the presence of minute quantities of copper. Further, it has been shown experimentally that copper hastens the mobilization of reticulocytes from the bone marrow.[2] "Practically, however, copper with iron is unimportant because we get all we need in our food and even as impurities in iron."[3] Sollmann[4] stated that the optimal dose of copper is so small that extreme precautions are taken to exclude it from iron to demonstrate its effect.

Apparently ferrous sulfate is the drug of choice in hypochromic anemia not because of any difference in efficiency, but because it is inexpensive, more easily tolerated in most cases and can be given effectively in small doses.

Where a liquid prescription is advantageous ferrous sulfate can be made permanently stable in solution by the addition of citric acid and simple syrup (elixir ferrous sulfate).

1. Fullerton, H. W.: Iron, Edinburgh M.J., **11**: 99 (1934).
2. McHargue, J. S.; Healy, D. J., and Hill, E. S.: The Relation of Copper to the Hemoglobin Content of Rat Blood, J. Biol. Chem. **78**:637 (1928).
3. Conferences on Iron Therapy, J.A.M.A., **114**:2212 (1940).
4. Sollmann, T.: Pharmacology, 1038 (1942).

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$15,000.00 ACCIDENTAL DEATH $75.00 weekly indemnity, accident and sickness	For $96.00 per year

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MEDICINE—Two Weeks Intensive Course will be offered starting June 1st and October 5th. Two Weeks Course in Gastro-Enterology will be offered starting June 15th and October 19th. Two Weeks Intensive Course in Electrocardiography and Heart Disease starting August 3rd.

FRACTURES & TRAUMATIC SURGERY—Two Weeks Intensive Course will be offered starting May 4th, June 29th and September 21st. Informal course available every week.

GYNECOLOGY—Two Weeks Intensive Course will be offered starting June 15th and October 19th. One Month Personal Course starting August 3rd. Clinical and Diagnostic Courses every week.

OBSTETRICS—Two Weeks Intensive Course will be offered starting October 5th. Three Weeks course starting May 25th and August 10th. Informal Course every week.

OTOLARYNGOLOGY — Two Weeks Intensive Course will be offered starting September 14th. Clinical and Special Courses every week.

OPHTHALMOLOGY — Two Weeks Intensive Course will be offered starting September 28th. Five Weeks Course in Refraction Methods starting May 11th and October 19th. Informal Course every week.

ROENTGENOLOGY—Courses in X-ray Interpretation, Fluoroscopy, Deep X-ray Therapy every week.

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ADVERTISERS' NOTES

DR. DARBY, NOTED SCIENTIST IN VITAMIN FIELDS, ON BORDEN STAFF

The Borden Vitamin Company, which has been bringing into its fold a number of research and production leaders in that field, announces that Dr. Hugh H. Darby, distinguished Columbia scientist and author of many authoritative works, has joined its staff for research and development in the production and application of vitamins and hormones.

Dr. Darby, who has been with the Department of Biochemistry of the College of Physicians and Surgeons for the past seven years as research associate, is a specialist there on vitamins and hormones, achieving wide attention for his work on the extraction and physiology of sex hormones.

Among other distinctions, Dr. Darby is noted as the discoverer of the existence of Vitamin D in plant life, and for his spectographic research on vitamins A, D and K. He originated the system, widely used by the Department of Agriculture, of heat treatment for the destruction of harmful insects.

Announcement of Dr. Darby's new activities was made by Charles F. Kieser, vice president of The Borden Company and president of The Borden Vitamin Company, a division that has been expanding its activities widely in the production of vitamins.

GLASS

Glass, the supercooled liquid we see through and put to a thousand different uses, was once chipped into axes, knives, spear and arrow heads by Stone Age warriors to mow down their enemies, according to Dr. E. D. Tillyer, American Optical Company research director.

Millions of years ago, he explained, nature's glass furnaces, volcanoes, fused together alkali, alumina and silica to form a natural silicate glass that is exceptionally hard and resistant to weathering, properties the Stone Age blitzkriegers put to lethal use.

This natural substance, states the scientist, would make a superior glass for most uses if it were not so difficult to melt. Accordingly, glass makers have been compelled to imitate nature by creating a workable artificial glass, accomplishing this by substituting lime for the alumina.

In the Yellowstone Park, he reports, a mass of glass is exposed to view, about nine miles long and four miles wide. Known as Obsidian Cliff, this phenomenon is probably a lava flow. At one time serious consideration was given to cutting a glass disk out of this cliff for the 200-inch telescope of the California Institute of Technology.

According to Dr. Tillyer, these volcanic glasses are fairly common in many regions of the earth's crust. However, they are so impure that special treatment would be necessary to obtain a clear transparent glass. The resulting cost of manufacture is prohibitive, otherwise it would be possible to quarry and melt this bountiful supply of natural glass and make it serve civilization.

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NATIONAL CONVENTION

The following announcement has been sent to us from Mrs. David B. Allman, Convention chairman, Atlantic City, New Jersey.

Haddon Hall will be the headquarters for the Annual Meeting of the Woman's Auxiliary to the American Medical Association, which will be held in Atlantic City, June 8-12, 1942. Requests for reservations should be sent immediately to Haddon Hall, Atlantic City, New Jersey.

DUVAL COUNTY AUXILIARY

The Woman's Auxiliary to the Duval County Medical Society held its March meeting in the home of Mrs. Edward Canipelli, on Lakewood Road, Colonial Manor.

In the absence of the president, Mrs. Raymond King, the first vice president, Mrs. J. D. Ferrara, presided. The local defense chairman reported that 16 blankets had been collected the previous week during the blanket drive. Mrs. C. E. Royce and Mrs. Gordon Ira were elected delegates to the State Auxiliary Convention to be held in Hollywood, April 13, 14 and 15.

Mrs. John F. Lovejoy introduced the guest speaker, Dr. Carita Doggett Corse, one of Florida's outstanding historians, who spoke on "Early Medical History in Florida." Dr. Corse pointed out that the first medical history in Florida was recorded by the French in the year 1564, and that the first public hospital was established in St. Augustine in 1598. She related many other interesting facts about medical history in Florida under the French, English and Spanish rulers.

During the social hour refreshments were served from a lace covered table centered with a silver bowl of red tulips and candles in the patriotic colors of red, white and blue. Mrs. S. R. Norris and Mrs. Frederick J. Waas poured tea and coffee. Mrs. Canipelli was assisted in serving by Mrs. A. R. Ball, Mrs. Patterson and Mrs. Ferrara. About 35 members were present.

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